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Kerr et al.

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(54) **EXTERNAL COOLING DEVICES AND SYSTEMS FOR SURGICAL INSTRUMENTS**

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(58) **Field of Classification Search**

None

See application file for complete search history.

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(57) **ABSTRACT**

A surgical system includes a portable surgical instrument and a sleeve. The portable surgical instrument includes an end effector assembly and a housing operably coupled to the end effector assembly. The housing includes a generator and a battery assembly coupled thereto and configured to supply energy to the end effector assembly for treating tissue. The sleeve is shaped complementarily to the housing and is removably positionable about the housing. The sleeve is configured to cool the housing and/or remove heat from the housing to inhibit overheating of the generator and/or the battery assembly.

18 Claims, 7 Drawing Sheets

